

In the Claims

Claims 3, 5-8, 10-12, 15, 17-19, 24, 26-30, 33 and 35-37 have been canceled without prejudice.

Claims 1, 9, 13-14, 16, 22-23, 25 and 31-34 have been amended and Claim 38 has been added as follows:

1. (Currently Amended) A substrate for attaching an array of biological or chemical analytes, said substrate comprises:

- a) a porous, ~~predominantly~~ inorganic layer, derived from a ~~frit layer of~~ individual particles, adhered to a flat, rigid, non-porous, inorganic understructure; and
- b) said porous inorganic layer ~~characterized as~~ having a plurality of interconnected voids of a predetermined mean size ~~of not less than about 0.1 μ m~~ dispersed therethrough, and having void channels that extend through to a top surface of said porous inorganic layer; ~~and~~
- e) ~~said inorganic material and contents of said voids exhibit a high contrast in their indices of refraction relative to each other such as to scatter light.~~

2. (Original) The substrate according to claim 1, further comprising a uniform coating of a binding agent over at least a part of the surface area of said voids and said top surface of said porous inorganic layer.

Claim 3. (Canceled)

4. (Currently Amended) The substrate according to claim 3, wherein said binding agent ~~cationic~~ polymer is ~~either gamma-aminopropyltriethoxysilane or polylysine~~ gamma-aminopropylsilane.

Claims 5-8. (Canceled)

9. (Currently Amended) The substrate according to claim 1, wherein said porous inorganic layer material is ~~characterized as~~ a material that is ~~non-absorbing and~~ transparent to light ~~when in the form of a solid of an amorphous or single crystal material.~~

Claims 10-12. (Canceled)

13. (Currently Amended) The substrate according to claim 1, wherein said porous inorganic layer has a thickness of ~~at least~~ about 5 μ m.

14. (Currently Amended) The substrate according to claim 1, wherein ~~said inorganic material~~ particles have a predetermined mean size in the range of about ~~0.3 μm to about 15 μm~~ 3.5 μm .

Claim 15 (Canceled)

16. (Currently Amended) The substrate according to claim 1, wherein said voids have a predetermined mean size in the range of about 0.3 μm to about ~~15 μm~~ 20 μm .

Claims 17-19. (Canceled)

20. (Original) The substrate according to claim 1, wherein said porous inorganic layer is characterized as having a microstructure that produces a sensitivity of fluorescent molecules of at least one order of magnitude greater than that of a comparable, non-porous substrate.

21. (Original) The substrate according to claim 1, wherein said porous inorganic layer has a microstructure derived from at least a partial sintering of said individual particles.

22. (Currently Amended) A device for performing multiple assays, said device includes:
a planar substrate comprising a porous inorganic layer, derived from ~~a frit layer~~ of individual particles, adhered to a flat, rigid, non-porous, inorganic understructure ~~having a coefficient of thermal expansion compatible with that of said porous inorganic layer;~~

said porous inorganic layer ~~characterized as forming a networked matrix~~ having a plurality of interconnected voids of a predetermined mean size and having void channels that extend through to a top surface of said porous inorganic layer;

said porous inorganic layer ~~contiguous inorganic material and contents of said voids~~ exhibit a high contrast in their indices of refraction ~~relative to each other such as to scatter light;~~ and having a coating of a binding agent over at least a portion of a surface area of ~~said voids and~~ said top surface of said porous inorganic layer.

23. (Currently Amended) The device according to claim 22, wherein said porous inorganic layer is characterized ~~characterizes~~ as having a microstructure that produces a sensitivity of fluorescent molecules of at least one order of magnitude greater than that of a comparable, non-porous substrate.

Claim 24. (Canceled)

25. (Currently Amended) The device according to claim 22, wherein said binding agent ~~cationic polymer is either gamma-aminopropyltriethoxysilane or polylysine~~ gamma-aminopropylsilane.

Claims 26-30. (Canceled)

31. (Currently Amended) The device according to claim 22, wherein said porous inorganic layer has a thickness of ~~at least~~ about 5 μm .

32. (Currently Amended) The device according to claim 22, wherein said ~~inorganic material~~ particles have a predetermined mean size in the range of about ~~0.3 μm to about 15 μm~~ 3.5 μm .

Claim 33. (Canceled)

34. (Currently Amended) The device according to claim 22, wherein said voids have a predetermined mean size in the range of about 0.3 μm to about ~~7 μm~~ 20 μm .

Claims 35-37. (Canceled)

38. (New) A substrate for attaching an array of biological or chemical analytes, said substrate comprises:

- a) a flat, rigid, non-porous, inorganic understructure;
- b) a porous inorganic layer, derived from one or more tape-casted frit layers of individual particles, adhered to said flat, rigid, non-porous, inorganic understructure; and
- c) said porous inorganic layer having a plurality of interconnected voids of a predetermined mean size dispersed therethrough, and having void channels that extend through to a top surface of said porous inorganic layer.